South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

FACT SHEET

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT FOR DISCHARGES ASSOCIATED WITH NONMETAL MINERAL MINING FACILITIES

Permit No. SCG730000 Date: June 8, 2010

1. SYNOPSIS OF PERMIT

a. Applicant

Those facilities which discharge groundwater (dewatering), stormwater, mine process wastewater, mine equipment wash water, and/or suction dredge water from nonmetallic mineral mining facilities. Approximately 750 facilities are currently covered under this general permit.

b. Facility Location

Within the geographic boundaries of the State of South Carolina.

c. Description of Applicant's Operation

Mining of sand, gravel, clay, fill dirt, kaolin, vermiculite, dimension stone, or crushed stone (or other nonmetallic mineral mining as approved by the Department on a case-by-case basis), and the discharging mine dewatering, stormwater, mine process wastewater, mine equipment wash water, and/or suction dredge water.

d. Receiving Water Name

FRESHWATERS (including Freshwaters with a site specific standard) and Saltwaters (Class SA and SB); and Shellfish Harvesting Waters (SFH), where approved) within the geographic boundaries of the State of South Carolina. Note: As defined in *SC Regulation 61-68, Water Classification and Standards, SC Regulation 61-69, Classified Waters*.

e. Description of Existing Pollution Abatement Facilities

Typically sediment pond(s) for sedimentation.

f. Permitting Action

Reissuance of a General Permit for mine discharges from nonmetallic mineral mines in the State of South Carolina including mine dewatering, stormwater, mine process wastewater, mine equipment wash water, and/or suction dredge water discharges.

2. PROPOSED EFFLUENT LIMITATIONS

See General Permit

3. RATIONALE FOR DETERMINING EFFLUENT LIMITATIONS

A. Type of Wastewater: mine dewatering (groundwater), stormwater and mine process wastewater from sand and gravel mines, sand mines, dimension stone quarries and crushed stone quarries, and other heavyweight aggregate nonmetallic mineral mining facilities as determined by the Department.

1) Total Suspended Solids:

Using Professional Judgment: 40 CFR 436 Subpart D - Industrial Sand Category: with the exception of HF flotation, discharges of process wastewater pollutants from facilities that recycle wastewater for use in processing, shall not exceed average of daily values for 30 consecutive days (monthly average) 25 mg/l; maximum for any one day (daily maximum) of 45 mg/l. Because of the similarity of industrial sand and construction sand and gravel, this limit will be applied to both industrial sand, construction sand, or construction sand and gravel mines. Using Professional Judgment, this limit will also be applied to dimension stone and crushed stone quarries and other heavyweight aggregates.

Even though sampling is required only once per month, a daily maximum value is included so that if a facility samples more than once per month, an average and a maximum can be obtained. If a facility samples only once per month, the monthly average value will be required to be met.

2) pH:

40 CFR 436 Subpart B - Crushed Stone Subcategory: Discharges of mine process generated wastewater pollutants from facilities that recycle waste water for use in processing shall be within the range of 6.0 to 9.0 pH units. Mine dewatering discharges shall be within the range of 6.0 to 9.0 pH units.

Subpart C - Construction Sand and Gravel and Subpart D - Industrial Sand and Gravel: Discharges of mine process generated wastewater pollutants from facilities that recycle wastewater for use in processing shall be within the range of 6.0 to 9.0 pH units. Mine dewatering discharges shall be within the range of 6.0 to 9.0 pH units.

SC Regulation 61-68, *Water Classifications and Standards*: For Class FRESHWATERS: pH shall be between 6.0 and 8.5. For Class FRESHWATERS with a site specific standard: pH shall be between 5.0 to 8.5, pH units. 40 CFR 436, Mineral Mining, provides for an alternate pH: In the case of a discharge into receiving waters for which the pH, if unaltered by man's activities, is or would be less than 6.0 and water quality criteria in water quality standards approved under the Act authorize such lower pH, the pH limitation for such discharge may be adjusted downward to the pH water quality criterion for the receiving waters (but not less than 5.0). For Class SA and SB and SFH (saltwaters) pH shall be between 6.5 and 8.5.

Conclusion: In order to protect the stream standard, limit shall be based on SC Regulation 61-68: for Freshwaters, pH shall be between 6.0 and 8.5; for Class SA and SB and SFH (saltwaters), pH shall be between, 6.5 and 8.5; and for class Freshwaters with a site specific standard, pH shall be between 5.0 to 8.5.

3) Oil and Grease:

Because most quarries have some type of equipment and vehicle maintenance activity conducted on-site, oil & grease will be required to be monitored once per quarter. Limits are 10 mg/l as a monthly average and 15 mg/l as a daily maximum (the daily maximum is given in the case that a facility samples more than once per month, if the facility samples only once per quarter the monthly average value will be required to be met). These limits are based on standard DHEC operating procedure based on a level of 10 mg/l of oil & grease normally resulting in a sheen on the surface of water.

B. Type of Wastewater: Mine dewatering (groundwater), storm water and mine process wastewater from clay, fill dirt, kaolin, vermiculite mines and other lightweight aggregates as determined by the Department:

1) Total Suspended Solids:

In past discussions with EPA Effluent Guidelines Division, for total suspended solids: clays and other lightweight materials (such as vermiculite) historically on SC DHEC permits had been given limits of 55 mg/l (30 day average) and 110 mg/l (daily maximum). EPA did not object to these limits. Therefore the limits shall remain as previously permitted based on Professional Judgment.

Even though sampling is required only once per month, a daily maximum value is included so that if a facility samples more than once per month, an average and a maximum can be obtained. If a facility samples only once per month, the monthly average value will be required to be met.

2) pH:

SC Regulation 61-68, *Water Classifications and Standards*: For Class FRESHWATERS: pH shall be between 6.0 and 8.5. For Class FRESHWATER with a site specific standard, pH shall be between 5.0 to 8.5 pH units. For the category of mineral mining, 40 CFR 436 provides for an alternate pH: In the case of a discharge into receiving waters for which the pH, if unaltered by man's activities, is or would be less than 6.0 and water quality criteria in water quality standards approved under the Act authorize such lower pH, the pH limitation for such discharge may be adjusted downward to the pH water quality criterion for the receiving waters (but not less than 5.0). For Class SA and SB and SFH (saltwaters) pH shall be between 6.5 and 8.5.

Conclusion: In order to protect the stream standard, limit shall be based on SC Regulation 61-68: for FRESHWATERS, pH shall be between 6.0 and 8.5; for class FRESHWATER with a site specific standard, pH shall be between 5.0 to 8.5 and for Class SA and SB and SFH (saltwaters), pH shall be between, 6.5 and 8.5;

C. Type of Wastewater: Mine equipment wash water from any nonmetallic mineral mine.

1) Total Suspended Solids:

Using Professional Judgment: The Department's NPDES General Permit for Vehicle Wash Water Discharges includes Total Suspended Solids limits of 30 mg/l (quarterly average) and 60 mg/l (daily maximum). Based on professional judgment, these limits shall be applied to mine equipment wash water.

Even though sampling is required only once per month, a daily maximum value is included so that if a facility samples more than once per month, an average and a maximum can be obtained. If a facility samples only once per month, the monthly average value will be required to be met.

If mine equipment wash water is mixed with any of the discharges subject to the Total Suspended Solids effluent limitations included in Part X.A of the general permit (25 mg/l monthly average and 45 mg/l daily maximum), the Total Suspended Solids limits of Part X.A shall apply in lieu of the Total Suspended Solids limits of Part X.C.

2) pH:

SC Regulation 61-68, *Water Classifications and Standards*: For Class FRESHWATERS: pH shall be between 6.0 and 8.5. For Class FRESHWATERS with a site specific standard: pH shall be between 5.0 to 8.5, pH units. 40 CFR 436, Mineral Mining, provides for an alternate pH: In the case of a discharge into receiving waters for which the pH, if unaltered by man's activities, is or would be less than 6.0 and water quality criteria in water quality standards approved under the Act authorize such lower pH, the pH limitation for such discharge may be adjusted downward to the pH water quality criterion for the receiving waters (but not less than 5.0). For Class SA and SB and SFH (saltwaters) pH shall be between 6.5 and 8.5.

Conclusion: In order to protect the stream standard, the limit shall be based on SC Regulation 61-68: for Freshwaters, pH shall be between 6.0 and 8.5; for Class SA and SB and SFH (saltwaters), pH shall be between, 6.5 and 8.5; and for class Freshwaters with a site specific standard, pH shall be between 5.0 to 8.5.

3) Oil and Grease:

Limits are 10 mg/l as a monthly average and 15 mg/l as a daily maximum (the daily maximum is given in the case that a facility samples more than once per month, if the facility samples only once per quarter the monthly average value will be required to be met). These limits are based on standard DHEC operating procedure based on a level of 10 mg/l of oil & grease normally resulting in a sheen on the surface of water.

4) Surfactants:

Surfactants may be toxic to aquatic life and are regulated as foaming agents under the National Secondary Drinking Water Regulations with a maximum contaminant level of 0.5 mg/l. Additional information is necessary regarding discharge concentrations of surfactants before the Department can determine if an effluent limit for surfactants is necessary. Therefore, a quarterly monitor and report requirement is included. The permit will also contain an allowance to discontinue

monitoring if the results for four consecutive quarters of monitoring are less than the Practical Quantitation Limit of 0.050 mg/l.

D. Type of Wastewater: discharges of suction dredge water resulting from the onshore subsequent processing of dredged material from sand or gravel dredging operations. (These limitations do not apply to sand or gravel dredging operations conducted in a mine pit.)

1) Total Suspended Solids:

The effluent limitation guidelines of 40 CFR Part 436 do not appear to apply because this discharge is specifically excluded from the definition of mine process wastewater. From 40 CFR 436.31(e) and 436.41(e) – "The term does not include waste water used for the suction dredging of deposits in a body of water and returned directly to the body of water without being used for other purposes or combined with other waste water."

Additional information is necessary before the Department can propose an appropriate effluent limit based on professional judgment for Total Suspended Solids. Therefore, the Department will collect Total Suspended Solids data during this permit term by requiring facilities to monitor and report on a monthly basis.

2) pH:

The effluent limitation guidelines of 40 CFR Part 436 do not appear to apply because this discharge is specifically excluded from the definition of mine process wastewater. From 40 CFR 436.31(e) and 436.41(e) – "The term does not include waste water used for the suction dredging of deposits in a body of water and returned directly to the body of water without being used for other purposes or combined with other waste water."

SC Regulation 61-68, *Water Classifications and Standards*: For Class FRESHWATERS: pH shall be between 6.0 and 8.5. For Class FRESHWATERS with a site specific standard: pH shall be between 5.0 to 8.5, pH units. For Class SA and SB and SFH (saltwaters) pH shall be between 6.5 and 8.5.

Conclusion: In order to protect the stream standard, limit shall be based on SC Regulation 61-68: for Freshwaters, pH shall be between 6.0 and 8.5; for Class SA and SB and SFH (saltwaters), pH shall be between, 6.5 and 8.5; and for class Freshwaters with a site specific standard, pH shall be between 5.0 to 8.5.

4. MONITORING REQUIREMENTS

A. Measurement Frequency:

Because most mine discharges are intermittent, measurement frequency shall be once per month when a discharge is occurring (except for oil and grease at quarries, oil and grease for mine equipment wash water, and surfactants for mine equipment wash water which are once per quarter).

B. Submission of Discharge Monitoring Reports:

For all facilities, discharge monitoring reports are to be recorded and maintained on-site. The on-site data must be updated by the 28th day of each month to include the previous month's discharge monitoring report. These reports are to be submitted to the Department on an annual basis. The reporting period runs from July 1 to June 30 and the discharge monitoring reports for this period are due the 28th day of the following July.

5. SCHEDULE FOR MEETING LIMITS

The permittee is to obtain compliance with the permit limitations and conditions on the effective date of the permit.

However, with regard to the new effluent limitations for mine equipment wash water and suction dredge water, Part X.F of the general permit, specifies that the previous permit limits for the covered outfalls will apply until the Department notifies the facility of the appropriate permit limits. The Department must receive a revised Notice of Intent from these facilities before being able to notify them of the appropriate limits. Additionally, because the reissued permit contains the requirements for Notices of Intent, the reissued permit must become effective before these facilities can submit a revised NOI under the new permit.

6. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

Facilities which discharge to Outstanding National Resource Waters, Outstanding Resource Waters, or Trout Waters are not eligible for this Permit.

7. PERMIT DURATION

Five (5) years from the effective date of the permit.

8. PUBLIC NOTICE INFORMATION

A notification of this draft permit will be published in papers of statewide distribution

and posted on the Department's website at **www.scdhec.gov/environment/water** beginning the week of July 12, 2010 under the "Public Notices and Notice of Proposed Decision" link.

Please refer to the Public Notice for details regarding the procedures for a final permit decision, deadline for comments and other information regarding the final permit.

9. MISCELLANEOUS ISSUES

A. Renotification for Existing Facilities

Because new limits may apply under the reissued permit if an existing facility discharges suction dredge water or mine equipment wash water, these facilities are required to renotify. After receiving the revised Notice of Intent form from the facility, the Department will notify the facility of any newly applicable permit limits and provide the facility with new Discharge Monitoring Report forms.

Existing facilities are also required to renotify if the information included on the most recently submitted NOI is no longer accurate.

Facilities that are required to renotify must do so within 120 after the effective date of the permit.

B. Revised Stormwater Pollution Prevention Plan (SWPPP)

Existing facilities are required to revise their SWPPP, if necessary, to comply with SWPPP requirements of the reissued permit within 120 after the effective date of the permit.

C. Streams with Reduced pH

If the pH of the receiving stream is less than 6.0 standard units (6.5 for SFH, SA, and SB waters), the discharge pH may be less than 6.0 standard units (6.5 for SFH, SA, and SB waters) only if the discharge pH is not less than the stream pH by a difference of more than 0.2 standard units. Example: If the stream pH is 5.5, the discharge pH must be between 5.3 and 8.5. The difference between the stream pH (5.5) and the discharge pH (5.3) is 0.2. This variance will be granted only if the stream pH is analyzed on the day of the discharge, the results satisfy the above conditions, and the results are submitted with the DMR forms.

D. Construction Permits and Certified Operators

The Department is not requiring certified wastewater treatment plant operators in this permit. However, any applicable wastewater construction permit will address this requirement. Typically, wastewater construction permits, and therefore certified operators, are not required for sedimentation basins and oil water separators at nonmetal mineral mine facilities. Also, if additional treatment are installed but are not required to meet permit limits, a construction permit and certified operator would not be required.

E. Stormwater monitoring

This permit includes stormwater monitoring that was not included in the previous permit. Benchmark monitoring applies quarterly with a 100 mg/l Total Suspended Solids benchmark. Impaired waters monitoring applies annually. Benchmark monitoring and impaired waters monitoring may be discontinued if monitoring results meet certain criteria as described in the permit. These stormwater monitoring requirements are closely modeled after similar requirements included in the September 2008 U.S. EPA Multi-sector General Permit for Stormwater Discharges Associated with Industrial Activity.

As with numeric effluent limitations monitoring, South Carolina regulation 61-81 State Environmental Laboratory Certification Program requires that South Carolina certified laboratories perform the analyses for benchmark monitoring and impaired waters monitoring.

F. Stormwater Inspections and Quarterly Visual Assessments

This permit includes stormwater inspection requirements that were not included in the previous permit. Routine facility inspections must be conducted and documented at least quarterly, and a comprehensive site inspection must be conducted and documented annually. In addition, a visual assessment of the stormwater discharges must be conducted and documented quarterly. These inspection requirements are closely modeled after similar requirements included in the September 2008 U.S. EPA Multi-sector General Permit for Stormwater Discharges Associated with Industrial Activity.

G. River Sand and Gravel Dredging Operations

In addition to the effluent limitations described above for discharges of suction dredge water resulting from the onshore subsequent processing of dredged material from sand or gravel dredging operations, the permit also requires best

management practices be implemented for the management of this wastewater. Because these dredging sites vary considerably with regard to the amount of available onshore space, the Department is not requiring specific best management practices (such as stormwater management best management practices), other than cleaning out sedimentation basins when accumulated sediment reaches 50% of the storage volume of the basin. The permittee shall select best management practices based on the specifics of the operation and the available land.

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